PRIZMA

DRY SALT AEROSOL GENERATOR FOR INHALATION
MODEL "PRIZSALT"

USER MANUAL

v 1.01

Thank you very much for purchasing this PRIZMA's device. Be sure to read this instruction manual carefully before using the product so that you can use it safely and correctly. Please keep this instruction manual always at hand for future reference.

Be sure to use product properly according to instructions given by medical professionals.

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BE SURE TO READ THIS SECTION
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Revision list

Document name:	Revision:	Date:	Reason for change:
PRIZSALT user manual	Rev 01-00		Initial release
PRIZSALT s00 cover	Rev 01-00		Initial release
PRIZSALT s01 index	Rev 01-00		Initial release
PRIZSALT s02 revision list	Rev 01-01		Change on mechanical parts
PRIZSALT s03 be sure to read this section	Rev 01-00		Initial release
PRIZSALT s04 about the product	Rev 01-01		Change on mechanical parts
PRIZSALT s05 installation	Rev 01-01		Change on mechanical parts
PRIZSALT s06 how to use product	Rev 01-01		Change on mechanical parts
PRIZSALT s07 how to take care of product	Rev 01-01		Change on mechanical parts
PRIZSALT s08 troubleshooting	Rev 01-01		Change on mechanical parts
PRIZSALT s09 specifications	Rev 01-01		Change on mechanical parts

Exepmtions from liabilities

Please understand that PRIZMA is not liable for the following:

1. Occurence of trouble and/or damage caused by the maintenance and/or repair conducted by other than PRIZMA or PRIZMA's authorized dealer.
2. Trouble and/or damage of PRIZMA's product caused by the product of other manufacturer not delivered by PRIZMA.
3. Trouble and/or damage caused by maintenance and/or repair using the repair part(s) not authorized by PRIZMA.
4. Trouble and/or damage caused as a result of not observing the Notes on Safety or operating method mentioned in this Instruction manual.
5. Deviation from the operating conditions of the product mentioned in this Instruction manual including the power source and installation environment.
6. Trouble and/or damage caused as a result of modifying and/or improper repair of the product.
7. Trouble and/or damage caused by supreme forces such as fire, earthquake, flood or lightning.

1. The contents of this Instruction manual are subject to change for improvement without prior notice.
2. The contents of this Instruction manual have been prepared with care and attention. However, if you find any omission or error, plaese inform your local PRIZMA representative or dealer.
3. It is prohibited to copy all or a part of this Instruction manual without getting PRIZMA's permission. Unless you use this Instruction manual for your personal (corporate) purpose, you are not allowed to use it without PRIZMA's permission in accordance with the Copyright Act.

Notes on safety

- The warning signs and the sample icons shown here are listed for you to use this product safely and correctly as well as to prevent the risk of injury to you and others.
- The icons and meanings are as follows:

Warning sign	Contents
⚠ **Warning**	Indicates matters in which the possibility of death or severe bodily injury may arise as a result of incorrect handling.
⚠ **Caution**	Indicates matters in which bodily injury or material damage* may arise as a result of incorrect handling.

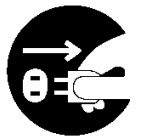
* Pod materijalnom štetom podrazumeva se širok opseg šteta na kući, pokućstvu, domaćim životinjama i ljubimcima.

Examples of signs		
The △ icon indicates caution (including warning and danger). Matters involving actual caution are indicated by statements or pictures in or near △.	The pictured icon refers to "caution for flammability".	The pictured icon refers to "caution for electric shock".
The ⃠ icon indicates prohibitions (what you cannot do). Matters involving specific prohibitions are indicated by text or pictures shown in or near ⃠.	The pictured icon refers to "prohibition to disassemble".	The pictured icon refers to "general prohibition".
The ● icon indicates something that is compulsory (must be observed at any time). Matters involving specific compulsory actions are indicated by statements or pictures shown in or near ●.	The pictured icon refers to "general compulsion".	The pictured icon refers to "unplugging the power plug".

⚠ Warning	
Use only salt approved for medical purposes, according to doctors instructions. • Patioent physical condition may change for the worse. Consult doctor about suitability of treatment with this product, i.e. is there possibility for worsening of patient physical condition during or after treatment. • Patioent physical condition may change for the worse. Clean product after use. • Salt is collectiong inside product during work. Salt is very corrosive substance. There can be corrosion and damage of some product parts. In case of any problem with your nebuliser please contact your local PRIZMA service representative (address on/ inside package).	

Do not use this device in vicinity of flammable gases nor in high risk of explosion areas. It is permitted to nebulise only salt. Do not disassembly product while the power plug is plugged into the electric outlet. • You may suffer electric shock or injure yourself .	
Do not plug in or pull the power plug from the electric outlet with wet hands. • You may suffer electric shock or injure yourself . Do not wash the product with water, or splash water over product. • Short circuit may occur in the product or you may suffer electric shock.	

⚠ Warning	
Product is intented for inhalation by dry salt . • If you try some other kind of substances there are possibilities of damaging parts of product or abnormal functioning of product. If the product parts have already become dirty before using the product, clean them first before use. • If the medication remains in the product there are possibilities of degradation of product performances. Disposal of this product should be carried out in accordance with the national regulations for the disposal of electronic products.	

⚠ Warning	
If you are not going to use the product for a long time, be sure to unplug the power plug from the electric outlet. • You may suffer electric shock or the product may ignite due to electric leakage. Be sure to turn off the power and unplug the power plug from the electric outlet when you install, or remove the product, clean product, repair product or take care of the parts. • You may suffer electric shock or injure yourself.	
Do not look into the output air flow during nebulization. • Big amount of salt can reach your eyes and cause injury. Do not fill the tank with the substances other than pure dry salt approved for medical use. • There is possibilities of damaging the product or degradation of performances. Do not use the power cord or the power plug if it is damaged, or do not plug the power cord into a loose electric outlet. • You may suffer electric shock or the product may be shorted or ignite . Do not scratch, tear, modify, forcibly bend, pull, twist, or bundle the power cord. Do not place a heavy material on the power cord. Keep power cord away from heated or hot surfaces. • You may suffer electric shock or the product may ignite due to short circuit because of deteriorated insulation.	

Notes on safety

Do not disassemble, repair, or modify the product. • The product may malfunction or cause injury. Contact your nearest PRIZMA service representative.	
Do not use a power cord other than the supplied one. • The product may ignite or you may suffer electric shock. Be sure to use the power source as specified on the device. • The product may ignite or you may suffer electric shock. Do not share the electric outlet with other electric appliances. • The product may ignite or you may suffer electric shock. To unplug the power plug from the electric outlet, do not pull the power cord, instead hold the power plug with your hand. • The power cord may be broken or short-circuited and cause fire or you may suffer electric shock.	

General advice
Do not use the product for the purpose other than for inhalation. Do not use any parts other than the accessories or the optional parts listed in this Instruction Manual. Do not fill the tank with more than 150g of dry salt. Do not block the air ventilation holes at the bottom side of the product. Do not inhale with deflector plate removed. • Big amount of salt can reach skin or eyes. After cleaning the parts, assemble them after they are completely dried. Do not wipe product with volatile chemicals, such as benzine or thinners. Although this nebuliser fulfils the provisions of the EMC (Electromagnetic Compatibility) directive, the use of it should be avoided in direct vicinity of other electric devices. Do not allow unsupervised children or infirm persons to use the product.

Maintenance

Before using the product, be sure to confirm that the product operates normally and safely.

How to handle faults or accidents

If an equipment error occurs, immediately take the following measures:
1) Power-off the product and unplug the power plug from the electric outlet.
2) Write " Faulty-Do not use" on the product so that it will not be used.
3) Contact the store where you purchased the product or the nearest PRIZMA dealer.

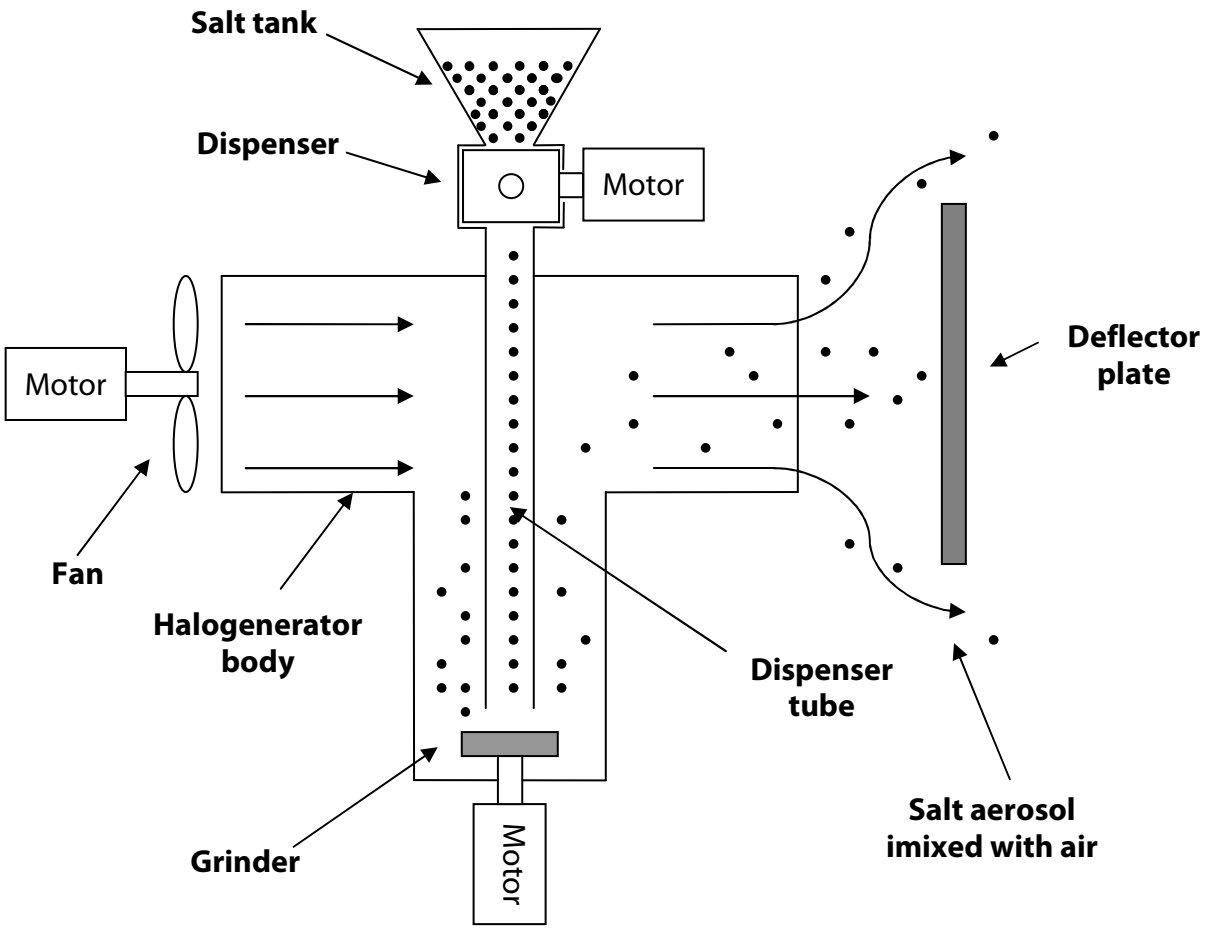
Principles of operation

1) Dispenser works in programmed time intervals and drops small amounts of salt from salt tank downto grinder.

2) Grinder breaks salt grains to salt dust particles of various size, from few microns to parts of millimeter.

3) Air flow of fan pulls small and light enough salt particles from grinder and blows them out through out orrifice of product.

4) Output airflow with salt hits deflector plate. Coarse and heavy salt particles are not able to follow sudden change of airlow, hit deflector plate and drop down to flor. Fine and light particles can follow fan airflow, pass deflector plate and reach air inside salt room.



Features of the product

1 Product is composed of halogenerator and control unit. Halogenerator and control unit are connected by a control cable. Separate power cord is located on control unit.

2 Easy to see LCD displays program number, salt dispensing profile during inhalation, remaining time of inhalation and indication of problems during inhalation. The back-light illumination featured in the unit enables checking of the display in the dark.

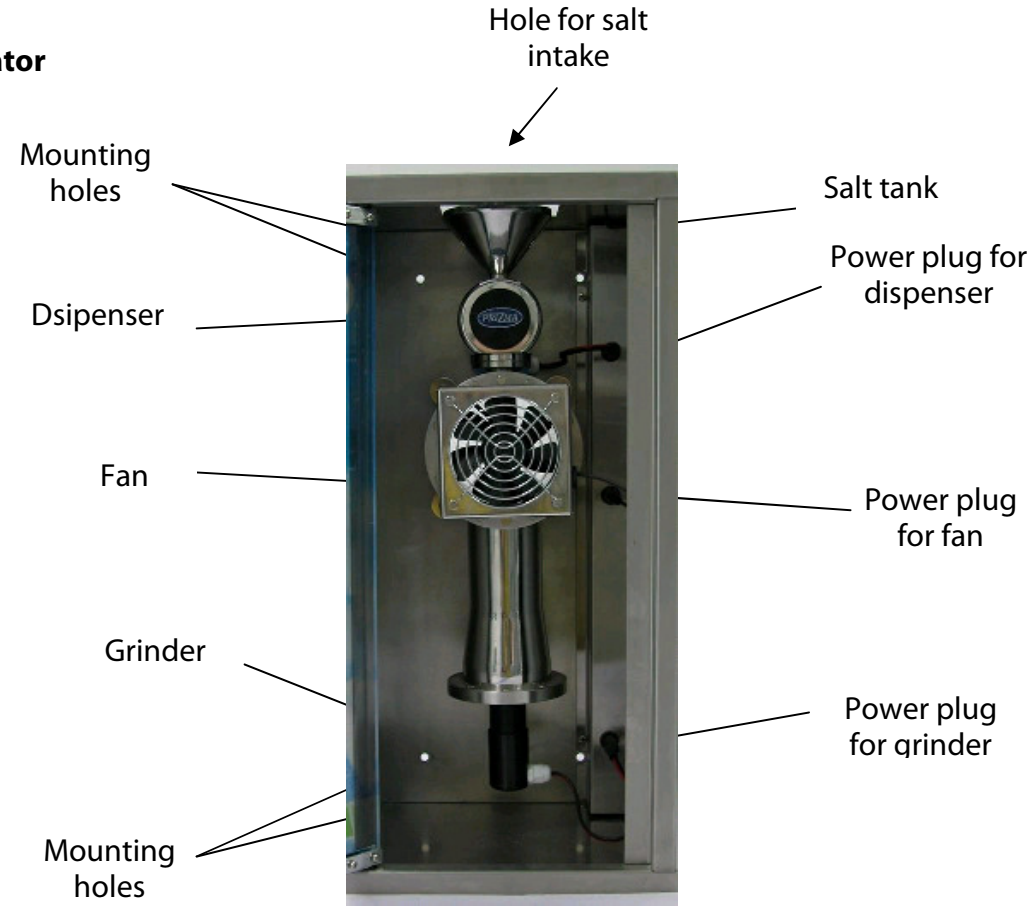
3 There is touch sensitive surface over display. It allows easy interactive product operation. The unit has notification buzzer. The buzzer sounds when some of commands on display are touched.

4 The buzzer sounds when an error occurs or the time set of inhalation is completed.

About the product

Composition of the product

Halogenerator

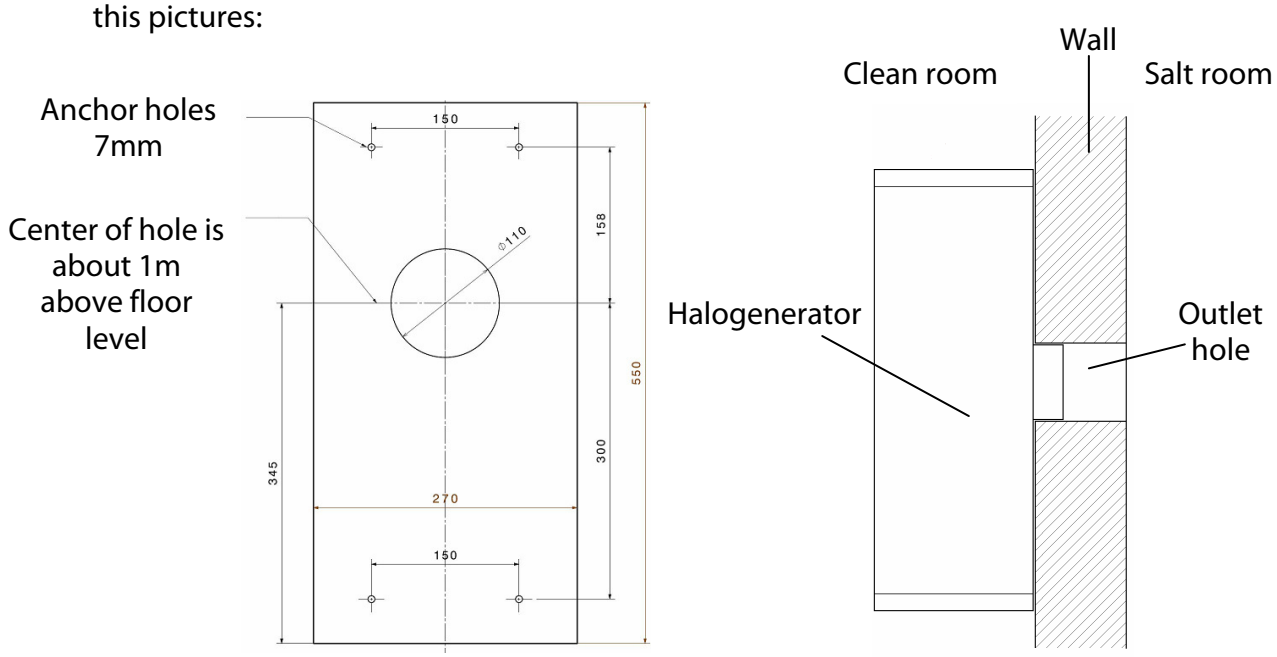


Control unit

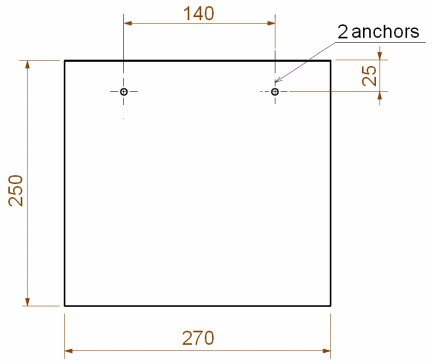
Halogenerator and control unit are connected by control cable. Control cable is running from control unit and should be connected to plug located on outer wall of halogenerator enclosure.

Installation

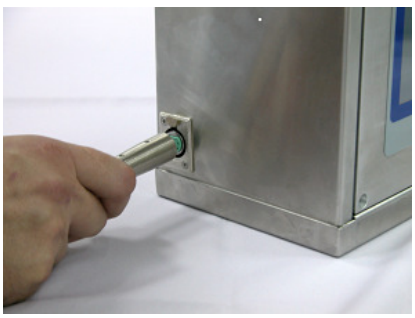
1. On outer surface of salt room wall mark centers of holes for halogenerator according to this pictures:



2. Drill in wall a hole of 110 mm diameter for outlet.
3. Drill in wall 4 holes of 8 mm diameter for nylon anchors, and insert anchors in holes.
4. Put halogenerator on prepared wall and screw 4 metal screws 5.5 x 60 mm - DIN7997 in anchors.
5. On outer wall of salt room mark centers of holes for control unit according to this picture:



6. Drill in wall 2 holes of 8 mm diameter for nylon anchors and insert anchors in holes.
7. Screw 2 metal screws 5.5 x 60 mm - DIN7997 in anchors so that 5 mm of screws is left out of wall.
8. Hang on control unit on this 2 screws.
9. Connect control cable to halogenerator.

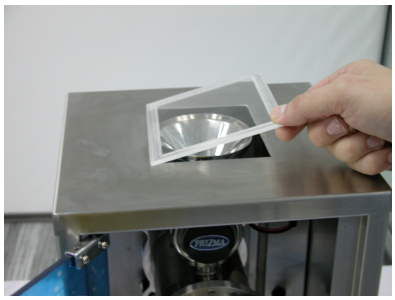


10. Connect control cable to halogenerator.

11. Insert power cable to control unit power plug and connect to earthed power inlet.

1. Intake of salt.

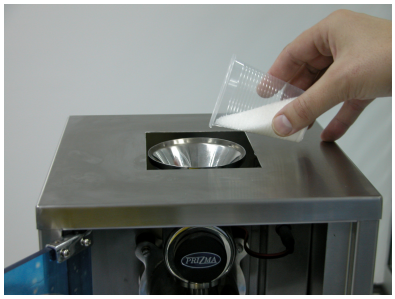
Remove salt tank cover.



Prepare salt for use. For proper operation of product salt must be dry.

If salt is wet, it is necessary to heat it up for 5-10 minutes to 80°C in order to remove absorbed water from salt.

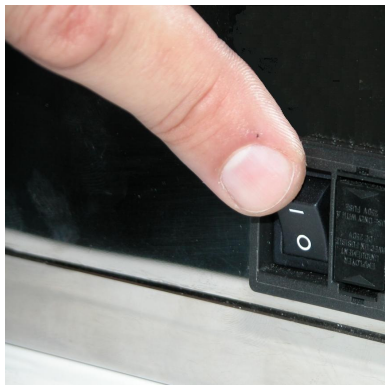
Pour salt in salt tank. Maximum permissible amount of salt is 150g.



2. Powering on.

Close the door of halogenerator.

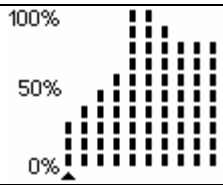
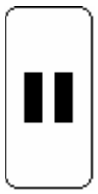
Turn on main switch (position "1"). Intro screen will apear for few seconds. After that basic page will be displayed.

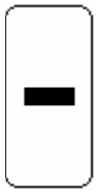


How to inhale

Unit is operated by pressing command buttons on LCD screen. If LCD is touched in area of some of the command buttons, unit will produce short sound. This way user has not only tactile, but also audible sense of operation.

Note: For long and trouble free operation please do not touch LCD screen with tip of nails or sharp objects, only with finger tip. Unit can detect two succesive pressing of LCD screen only if time between two pressings is longer than 200ms, i.e. it can not detect fast pressings.

Description of icons on LCD screen	
Button for set up of therapy duration. Therapy duration is displayed next to the button.	
Button for program selection.	
Buttons for selection of inhalation steps.	
Bar graph for displaying salt dispensing profile during inhalation.	
Button for setup of beginning of therapy. Digits next to the button displays daytime or moment of inhalation beginning.	
Button for entering setup screen.	
Button for starting of therapy.	
Button for pausing of therapy.	
Button for therapy termination.	
Button for decreasing value of selected parameter.	

Button for decreasing value of selected parameter.	

1. To set up day time

Unit has battery backed-up daytime clock, so it can operate even when unit is powered off. To set daytime press button . New screen will appear on LCD display. Press button . It will change color to . Time can be set by buttons "+" and "-". If you hold down buttons "+" or "-" for long time, daytime will change automatically. After daytime setting is finished press button . Basic page will be displayed again, and you should see current daytime in lower part of the screen.

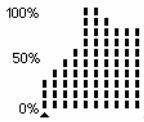
2. To set up duration of therapy

Press button . Button will change color to . Duration of therapy can be set by pressing button "+" or "-". Maximum duration of therapy is 99 minutes. Duration oh therapy is displayed on the right side of button.

3. To set inhalation program

Duration of therapy and profile of salt dispensing can be stored in one of nine programs. Press button P for program selection. After that button will change color. Program number can be set between 1 and 9 by pressing button "+" or "-".

4. To set profile of salt dispensing

Profile of salt dispensing is displayed on bar graph 

. Duration of therapy is divided in 10 equival time intervals. Each time interval have one assigned bar graph column. It is possible to adjust amount of dispensed salt between 0 and 100% of machine capacity independently in each time interval.

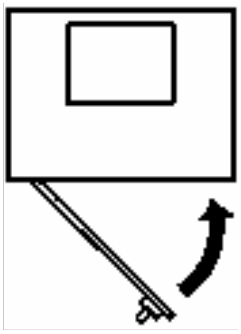
Press the button or . Pressed button will change color. Cursor ▲ can be moved left or right bellow bar graph by pressing this buttons. Cursor must be located bellow bar graph whose value should be set. By pressing buttons "+" and "-" it is possible to set salt dispensing value from 0% to 100% in 10% steps.

5. To start up therapy

Press button . Therapy will start up if door of halogenerator is closed and grinder is not blocked. After start of therapy button will change shape to , and button to . Duration of therapy is starting to countdown. After time of therapy expire nebulisation will stop and notification buzzer will sound.

It is possible to adjust profile of salt dispensing during therapy. It is not possible to adjust therapy duration during therapy.

If door of halogenerator is opened or grinder is blocked therapy will not start and error desciption pictures will appear on the display.



Halognerator door is open

Grinder is blocked

After correction of errors press button ✓ and start therapy again.

6. To pause therapy

Therapy can be paused by pressing button ⏸. It will change shape to ▶. Nebulisation and countdown will stop (therapy with large medication dose).

Therapy can be continued at any moment by pressing the same button. Therapy duration will countdown starting from current value.

7. To terminate therapy

Therapy can be interrupted at any moment by pressing button ■ . Basic screen will appear on LCD display. Last set points for air volume and nebulisation rate will be displayed. Duration of therapy will return to the start value before therapy.

After inhalation:

1 Turn off main switch (position "0").

2 Unplug the power plug from electric outlet.

3 Clean halogenerator.

Note: It is necessary to clean grinder after each inahalation. If you skip cleaning, salt deposited on dispenser and grinder will decrease efficiency of halogenerator and concentration of salt aerosol.

Deposits of salt can cause malfunction or defect of product.

In extreme cases of no cleaning salt deposits can block rotation of dispenser, fan or grinder. In this circumctances damage of product parts is possible (dispenser motor, dispenser gearbox, fan or grinder motor).

⚠ Warning	
Before dissasembly and cleaning of halogenerator turn off main switch and unplug the power plug from the electric outlet. • You may suffer electric shock or injure yourself.	

How to take care of product

Product require cleaning of salt remained after therapy inside halogenerator.

Cleaning

All parts should be cleaned by dry cloth or dry brush.

General advice
• Do not wipe the main unit with volatile chemicals, such as benzine or thinners.

1. Preparing for cleaning

Turn off main switch (position "0") on the right side wall of control unit.

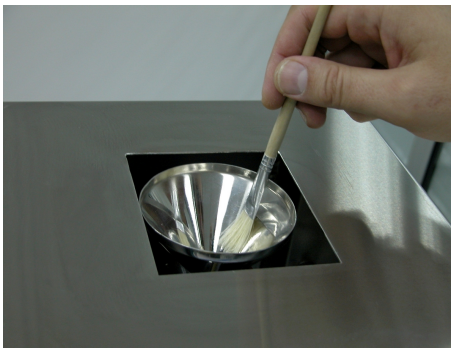
Take door handle by hand and open the door.

2. Disconnection of power plugs

Disconnect dispenser, fan and grinder power plugs.

3. Dispenser cleaning

Wipe remaining salt form inside surface of salt tank to bottom of salt tank.



Rotate dispenser plug counterclockwise until it is possible to pull it outside dispenser body.

Wipe out salt from all surfaces and blind holes of dispenser plug.

Wipe salt remained on inner surfaces of dispenser to dispenser tube inside body with dry brush.

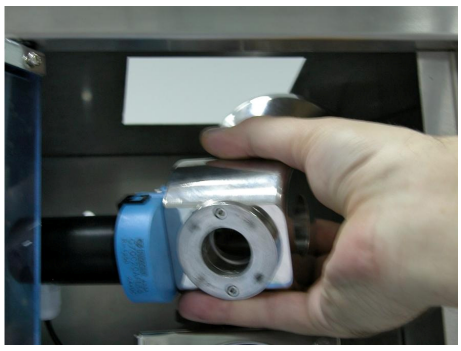
Take dispenser body by hand.

How to take care of product

Rotate slightly dispenser body.

Pull up dispenser body.

Take dispenser out of halogenerator



Wipe out salt remained on inner surfaces of dispenser body with dry brush.

Wipe salt remained on inner surfaces of dispenser tube with long dry brush.

4. Fan cleaning

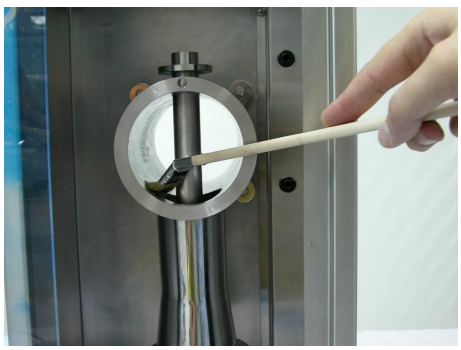
Take fan cage by hand.

Rotate slightly fan cage.

Pull fan cage from inhalator body.

Wipe out salt remained on all fan surfaces with dry brush.

Wipe out salt remained on all inner surfaces of halogenerator body, i.e. inner surfaces of horizontal and vertical tube.



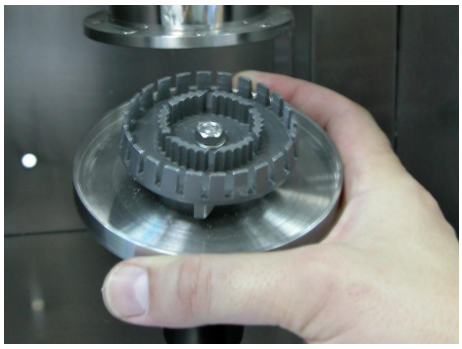
5. Grinder cleaning

Take grinder flange by hand.

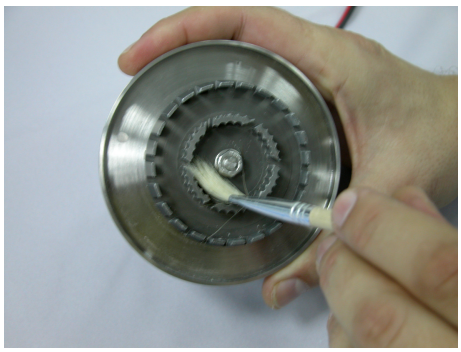
Rotate sligftly grinder flange .

Pull down grinder.

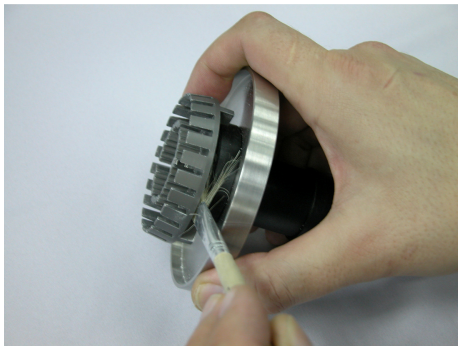
Take grinder out of halogenerator.



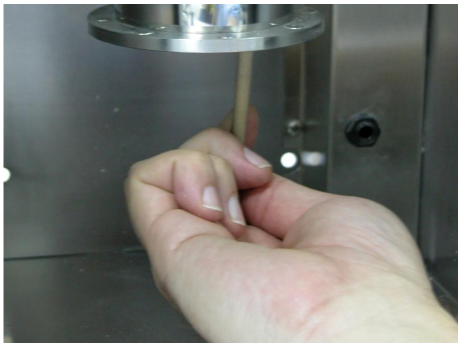
Clean salt from all surfaces of grinder.



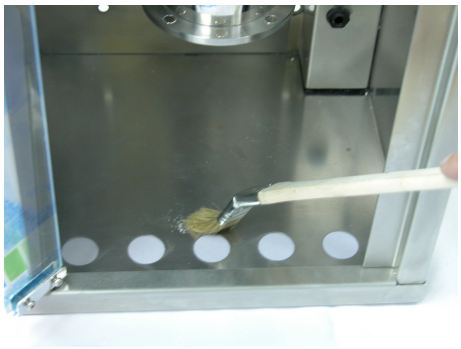
Do not forget to clean all surfaces between grinder and grinder flange.



Wipe out salt from inside outer vertical tube using long dry brush..



Wipe out salt collected on the bottom of halogenerator case through holes at the bottom of the case.



6. Halogenerator assembling

Assembly all parts of halogenerator in reverse order of disassembling until you reach starting configuration of halogenerator.

⚠ Warning	
Immediately dry metal parts wetted during cleaning. • Corrosion of product parts is possible.	
Do not wash the product with water, or splash water to the power source. • Electric leakage may occur in the unit or you may suffer electric shock.	
Be sure to turn off the power and unplug the power plug from the electric outlet when you install, or remove the product, clean the product, repair the product or take care of the parts. • You may suffer electric shock or injure yourself. Be sure that mains plug can be easely removed from mains socket outlet!	

Storing product

If you plan to not use product for some period of time>

1. Clean thoroughly salt from halogenerator.
2. Put plastic cover over salt intake hole.
3. Close halogenerator

Troubleshooting

Trouble	Where to inspect	How to correct
The display does not illuminate.	Is the power plug securely plugged into the electric outlet?	Plug the power plug in the electric outlet correctly.
	Is the main switch in position "1"?	Turn on power switch (position "1").
	Are two fuses between main switch and power plug blown?	Replace fuses.
Product does not produce aerosol.	Is there salt in salt tank?	Pour salt in salt tank.
	Is dispenser power plug connected?	Connect dispenser power plug.
	Is dispenser clean?	Clean dispenser.
	Is fan power plug connected?	Connect fan power plug.
	Is grinder power plug connected?	Connect grinder power plug.
	Is grinder clean?	Clean grinder.
	Is halogenerator door open?	Close halogenerator door.
The display shows alarm "Grinder is blocked"	Inspect salt deposits around and beneath rotating part of grinder.	Using small brush carefully clean all salt from grinder and salt deposits located beneath grinder.

- If the unit does not operate normally after taking the above-mentioned measures, do not touch the internal mechanism and consult the store where you purchased the unit or the nearest PRIZMA dealer.

Specifications

This device fulfils the provisions of the EC directive 93/42/EEC (Medical Device Directive).

Product name	:	PRIZMA Dry Salt Aerosol Generator for Inhaltion
Model	:	PRIZSALT
Product class	:	IIa - according to 93/42/EEC
Power source	:	100-240 VAC, 50-60Hz
Power consumption	:	55 W
Fuse	:	2 x T2AL250V
Class of electric protection	:	Class I
Electromagnetic emmision	:	EN 60601-1-2 compliant
Salt consumption	:	0 - 150g/h, adjustable
Air volume	:	Max 1000 l/min
Capacity of salt tank	:	150g
Real time clock backup battery	:	CR2032, 3V
External dimensions of halogenerator	:	270 (W) x 550 (H) x 260 (D) mm
External dimensions of control unit	:	270 (W) x 250 (H) x 150 (D) mm
Total weight	:	20 kg
Operating conditions	:	15 to 40°C (59 to 104°F), 30 to 60% RH
Storage and transport conditions	:	-20 to 50°C (-4 to 140°F), 20 to 80% RH
Accessories included	:	User manual (with warranty).

- Specifications and appearance are subject to change for without prior notice

Symbols:

= Warning: read the instruction manual carefully

= Correct disposal of This Product

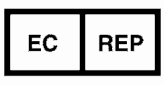
WARNING

= Do not open during operation

DO NOT OPEN
DURING OPERATION

CE 1304

Manufacturer : PRIZMA D.O.O.
Kumanovska 8
34000 Kragujevac, Serbia



EU representative : PHARMED D.O.O.
Cesta v mesti log 55, 000 Ljubljana, Slovenia